

### REMARKS

Upon entry of the above amendments, claims 28, 29, 31, 33-37 and 40-42 are pending in the application. Claims 30, 32, 38 and 39 are sought to be cancelled without prejudice thereto or disclaimer thereof any of the subject matter contained therein. Claims 28 and 34 are sought to be amended. Support for the amendments can be found, for example, in the original claims or in the specification at page 10. These amendments do not add any new matter and their entry is respectfully requested.

#### *Statement of the Substance of the Interview*

Applicants' undersigned representative thanks Examiner Sharon Hurt and Supervisory Patent Examiner Bruce Campell for the telephonic interview on Thursday, July 31, 2008. During this interview, the outstanding obviousness rejection under 35 U.S.C. §103 was discussed. The interview focused upon the fact that minute virus of canines (MVC) has no relationship to canine parvovirus type 2 (CPV-2). The lack of relationship between these two viruses is exemplified by Exhibit A, which identifies MVC to be a species of the bocavirus genus and CPV-2 to be a species of the parvovirus genus. Moreover, the fact that these viruses are not antigenically related, have no significant homology with each other, and provide very different restriction map results was also repeated. It was surmised that MVC was at one point labeled as a "parvovirus" simply because the Latin prefix "parvo" means small. *See* Exhibit B. Hence, it appears that MVC and CPV-2 only share the property of being small.

As discussed during the interview, such a property (*i.e.*, smallness) is not sufficient to demonstrate predictability of success to one of ordinary skill in the art for showing obviousness of the pending claims, as required by the U.S. Supreme Court in their decision *KSR International Co. v. Teleflex Inc.* 82 U.S.P.Q.2d 1385; *see also* USPTO Examination Guideline "Patent Corps-Wide Training: Determining Obviousness Under 35 U.S.C. §103 After *KSR International Co. v. Teleflex Inc.*" at [www.uspto.gov](http://www.uspto.gov); *see also* 72 Fed. Reg. 57526. That is, the fact that CPV-2 vaccines are in the prior art does not provide the requisite evidence that the skilled artisan would predict that a vaccine could be made for MVC, as CPV-2 and MVC are not related. The

unrelatedness of these two viruses has previously been discussed by Applicants in their Response to Non-Final Office Action, filed November 19, 2007, which is hereby wholly incorporated by reference. Partial excerpts from that Response highlighting the fact that MVC bears no relationship to CPV-2 are repeated here for the Examiners' convenience:

That CPV-1 represents an entirely different virus from CPV-2 is corroborated by the documents identified by the Examiner in a Notice of References Cited PTO-892 form accompanying an Office Action mailed on June 29, 2006. Schwartz, D. *et al.*, *Virology* 302: 219-223 (2002) ("Schwartz *et al.*") states that "MVC . . . [is] antigenically and genetically distinct from the canine parvovirus type-2 (CPV) based on antibody cross reactivity and restriction enzyme analysis of the viral DNA . . . ." See page 219, left column, first paragraph. Moreover, as evident from Schwartz *et al.*, the skilled artisan perceives CPV-1 to be distinct from CPV-2: "Here we show that MVC is a distinct member of the Parvoviridae which is most closely related to the bovine parvovirus, *although it shares only 43% identity in DNA sequence with that virus.*" See page 222, top of left column, emphasis added.

There is a clear genetic difference between MVC/CPV-1 and CPV-2. In fact, Schwartz *et al.* seems to suggest in the last paragraph in the left column of page 222 a better way of grouping the class of parvoviruses: i) adenoassociated viruses, ii) rodent virus-related viruses, and iii) erythroviruses. Whereas the second group includes canine parvovirus (i.e., CPV-2), the authors include MVC in the last group. Moreover, the authors caution that this grouping is imperfect because "MVC is still only distantly related to the other viruses, indicating that it diverged in the distant past." See sentence bridging left and right columns on page 222.

Other publications cited by the Examiner also corroborate the fact that MVC is a totally different virus than CPV-2. Pratelli *et al.*, *J. Vet. Diag. Invest.* 11: 365-7 (1999) was cited by the Examiner in the PTO-892 form accompanying the Office Action mailed on March 21, 2007. This publication states that "[a]ntigenic and genomic properties of MVC are distinct from those of canine parvovirus type 2 (CPV-2). . . ." See page 365, left column. Truyen, U., Recent Advances in Canine Infectious Diseases, International Veterinary Information Service (January 2000) was also cited by the Examiner in the same PTO-892 form. This publication states that "[t]wo distinct parvoviruses (CPV), are now known to infect dogs- the pathogenic CPV-2, . . . and the 'minute virus of canines' (MVC, CPV-1). . . . MVC, a completely different parvovirus, had not been associated with natural disease until 1992." See first paragraph, emphasis added.

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Attorney Docket: I-2002.025 US

*See* pages 5-6 of Applicants' November 19, 2007 filing. Hence, there is no relationship between MVC and CPV-2. Therefore, the fact that CPV-2 vaccines are in the prior art does not provide the requisite evidence that the skilled artisan would predict that a vaccine could be made for MVC, as CPV-2 and MVC are simply not related.

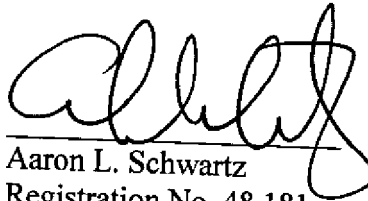
Solely to expedite prosecution and not in acquiescence to the rejection, Applicants have made the above claim amendments. Applicants earnestly believe that all outstanding rejections should be withdrawn as the claims are drawn to allowable subject matter. The Examiner is invited to contact the undersigned if any issues arise that can be addressed over the phone to expedite allowance of this application.

*Conclusion*

Applicants do not believe that any other fee is due in connection with this filing. If, however, Applicants do owe any such fee(s), the Commissioner is hereby authorized to charge the fee(s) to Deposit Account No. 02-2334. In addition, if there is ever any other fee deficiency or overpayment under 37 C.F.R. §1.16 or 1.17 in connection with this patent application, the Commissioner is hereby authorized to charge such deficiency or overpayment to Deposit Account No. 02-2334.

Applicants submit that this application is in condition for allowance, and request that it be allowed. The Examiner is requested to call the Undersigned if any issues arise that can be addressed over the phone to expedite examination of this application.

Respectfully submitted,



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# **EXHIBIT A**

Source:

<http://www.ncbi.nlm.nih.gov/ICTVdb>



## ICTVdB Index of Viruses

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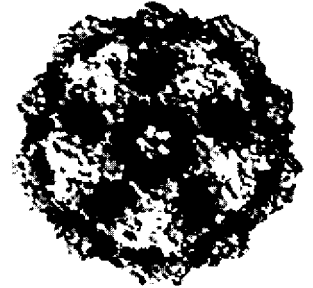
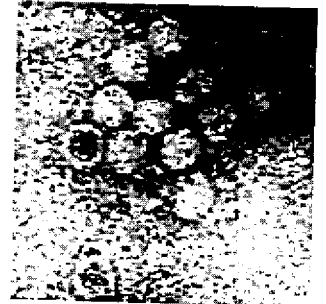
Nature of Genome:  
General Host Type:  
Morphology:

ssDNA  
Vertebrates, Invertebrates  
not enveloped, isometric

Family 00.050. Parvoviridae

### Taxonomic Structure of the Family

|           |   |
|-----------|---|
| Family    | 00.050. <u>Parvoviridae</u>                             |
| Subfamily | 00.050.1. <u>Parvovirinae</u>                           |
| Genus     | 00.050.1.01. <u>Parvovirus</u>                          |
| Genus     | 00.050.1.02. <u>Erythrovirus</u>                        |
| Genus     | 00.050.1.03. <u>Dependovirus</u>                        |
| Genus     | 00.050.1.04. <u>Amdovirus</u>                           |
| Genus     | 00.050.1.05. <u>Bocavirus</u>                           |
| Subfamily | 00.050.2. <u>Densovirinae</u>                           |
| Genus     | 00.050.2.01. <u>Densovirus</u>                          |
| Genus     | 00.050.2.02. <u>Iteravirus</u>                          |
| Genus     | 00.050.2.03. <u>Brevidensovirus</u>                     |
| Genus     | 00.050.2.04. <u>Pefudensovirus</u>                      |
|           | 00.050.2.00. <u>Unassigned Species in the Subfamily</u> |



**Subfamily 00.050.1. *Parvovirinae***

**Genus 00.050.1.01. *Parvovirus***

Type Species 00.050.1.01.001. *Minute virus of mice*

**List of Species Demarcation Criteria in the Genus**

Members of each species are antigenically distinct, as assessed by neutralization using polyclonal antisera, and natural infection is usually confined to a single host species. Generally, species are <95% related by non-structural gene DNA sequence.

**List of Species in the Genus**

The ICTVdB virus code and the viruses. Official virus *species names* are in italics. Tentative virus species names, alternative names ( ), isolates, strains, serotypes, subspecies, or rejected names are not italicized.

Virus codes, virus names, genome sequence accession numbers [ ] and assigned abbreviations ( ), are:

**Species, their serotypes, strains and isolates**

|                         |                                   |            |          |
|-------------------------|-----------------------------------|------------|----------|
| 00.050.1.01.006.        | <i>Chicken parvovirus</i>         |            |          |
| 00.050.1.01.006.00.001. | Chicken parvovirus                |            | (ChPV)   |
| 00.050.1.01.007.        | <i>Feline panleukopenia virus</i> |            |          |
| 00.050.1.01.007.00.005. | <u>Canine parvovirus</u>          | [M19296]   | (CPV)    |
| 00.050.1.01.007.00.007. | Feline panleukopenia virus        | [M75728]   | (FPV)    |
| 00.050.1.01.007.00.015. | Mink enteritis virus              | [D00765]   | (MEV)    |
| 00.050.1.01.007.00.018. | Raccoon parvovirus                | [M24005]   | (RPV)    |
| 00.050.1.01.010.        | <i>HB parvovirus</i>              |            |          |
| 00.050.1.01.010.00.001. | HB parvovirus                     |            | (HBPV)   |
| 00.050.1.01.011.        | <i>H-1 parvovirus</i>             |            |          |
| 00.050.1.01.011.00.001. | H-1 parvovirus                    | [X01457]   | (H-1PV)  |
| 00.050.1.01.012.        | <i>Kilham rat virus</i>           |            |          |
| 00.050.1.01.012.00.002. | H-3 virus                         |            |          |
| 00.050.1.01.012.00.001. | Kilham rat virus                  | [AF321230] | (KRV)    |
| 00.050.1.01.012.00.001. | (Rat virus)                       | [AF321230] | (KRV)    |
| 00.050.1.01.013.        | <i>Lapine parvovirus</i>          |            |          |
| 00.050.1.01.013.00.001. | Lapine parvovirus                 |            | (LPV)    |
| 00.050.1.01.014.        | <i>LuIII virus</i>                |            |          |
| 00.050.1.01.014.00.001. | LuIII virus                       | [M81888]   | (LuIIIV) |
| 00.050.1.01.016.        | <i>Minute virus of mice</i>       |            |          |
| 00.050.1.01.016.00.003. | Minute virus of mice (Cutter)     | [U34256]   | (MVMe)   |
| 00.050.1.01.016.00.003. | (Mice minute virus)               | [U34256]   |          |
| 00.050.1.01.016.00.002. | Minute virus of mice              | [M12032]   | (MVMI)   |

|                         |                                  |          |             |
|-------------------------|----------------------------------|----------|-------------|
| 00.050.1.01.016.00.001. | (immunosuppressive)              |          |             |
| 00.050.1.01.021.        | Minute virus of mice (prototype) | [J02275] | (MVMp)      |
| 00.050.1.01.021.00.001. | <i>Mouse parvovirus 1</i>        |          |             |
| 00.050.1.01.017.        | Mouse parvovirus 1               | [U12469] | (MPV-1)     |
| 00.050.1.01.017.00.001. | <i>Porcine parvovirus</i>        |          |             |
| 00.050.1.01.017.00.002. | Porcine parvovirus Kresse        | [U44978] | (PPV-Kr)    |
| 00.050.1.01.019.        | Porcine parvovirus NADL-2        | [L23427] | (PPV-NADL2) |
| 00.050.1.01.019.00.001. | <i>RT parvovirus</i>             |          |             |
| 00.050.1.01.020.        | RT parvovirus                    |          | (RTPV)      |
| 00.050.1.01.020.00.001. | <i>Tumor virus X</i>             |          |             |
|                         | Tumor virus X                    |          | (TVX)       |

#### **Tentative Species in the Genus**

|                         |                            |            |         |
|-------------------------|----------------------------|------------|---------|
| 00.050.1.81.026.        | Hamster parvovirus         |            |         |
| 00.050.1.81.026.00.001. | Hamster parvovirus         | [U34255]   | (HaPV)  |
| 00.050.1.81.028.        | Rat minute virus 1         |            |         |
| 00.050.1.81.028.00.001. | Rat minute virus 1         | [AF332882] | (RMV-1) |
| 00.050.1.81.027.        | Rat parvovirus 1           |            |         |
| 00.050.1.81.027.00.001. | Rat parvovirus 1           | [AF036710] | (RPV-1) |
| 00.050.1.81.023.        | Rheumatoid arthritis virus |            |         |



**Genus 00.050.1.02. *Erythrovirus***

Type Species 00.050.1.02.001. *Human parvovirus B19*

**List of Species Demarcation Criteria in the Genus**

Members of each species are probably antigenically distinct, and natural infection is confined to a single host species. Species are <95% related by non-structural gene DNA sequence.

**List of Species in the Genus**

The ICTVdB virus code and the viruses. Official virus *species names* are in italics. Tentative virus species names, alternative names ( ), isolates, strains, serotypes, subspecies, or rejected names are not italicized.

Virus codes, virus names, genome sequence accession numbers [ ] and assigned abbreviations ( ), are:

**Species, their serotypes, strains and isolates**

|                         |                                      |            |             |
|-------------------------|--------------------------------------|------------|-------------|
| 00.050.1.02.001.        | <i>Human parvovirus B19</i>          |            |             |
| 00.050.1.02.001.00.001. | Human parvovirus B19 - A6            | [AY064475] | (B19V-A6)   |
| 00.050.1.02.001.00.001. | Human parvovirus B19 - A6            | [AY064476] |             |
| 00.050.1.02.001.00.002. | Human parvovirus B19 - Au            | [M13178]   | (B19V-Au)   |
| 00.050.1.02.001.00.003. | Human parvovirus B19 - LaLi          | [AY044266] | (B19V-LaLi) |
| 00.050.1.02.001.00.004. | Human parvovirus B19 - V9            | [AJ223617] | (B19V-V9)   |
| 00.050.1.02.001.00.004. | Human parvovirus B19 - V9            | [AJ242810] |             |
| 00.050.1.02.001.00.005. | Human parvovirus B19 - Wi            | [M24682]   | (B19V-Wi)   |
| 00.050.1.02.004.        | <i>Pig-tailed macaque parvovirus</i> |            |             |
| 00.050.1.02.004.00.001. | Pig-tailed macaque parvovirus        | [AF221123] | (PMPV)      |
| 00.050.1.02.005.        | <i>Rhesus macaque parvovirus</i>     |            |             |
| 00.050.1.02.005.00.001. | Rhesus macaque parvovirus            | [AF221122] | (RmPV)      |
| 00.050.1.02.002.        | <i>Simian parvovirus</i>             |            |             |
| 00.050.1.02.002.00.001. | Simian parvovirus (cynomolgus)       | [U26342]   | (SPV)       |

**Tentative Species in the Genus**

|                         |                          |            |         |
|-------------------------|--------------------------|------------|---------|
| 00.050.1.82.006.        | Bovine parvovirus type 3 |            |         |
| 00.050.1.82.006.00.001. | Bovine parvovirus type 3 | [AF406967] | (BPV-3) |
| 00.050.1.82.003.        | Chipmunk parvovirus      |            |         |
| 00.050.1.82.003.00.001. | Chipmunk parvovirus      | [U86868]   | (ChpPV) |

**Genus 00.050.1.03. *Dependovirus***

Type Species 00.050.1.03.001. *Adeno-associated virus - 2*

**List of Species Demarcation Criteria in the Genus**

Members of each species are antigenically distinct, as assessed by neutralization using polyclonal antisera, and natural infection is usually confined to a single host species. Generally, species are <95% related by non-structural gene DNA sequence.

**List of Species in the Genus**

The ICTVdB virus code and the viruses. Official virus *species names* are in italics. Tentative virus species names, alternative names ( ), isolates, strains, serotypes, subspecies, or rejected names are not italicized.

Virus codes, virus names, genome sequence accession numbers [ ] and assigned abbreviations ( ), are:

**Species, their serotypes, strains and isolates**

|                         |                                      |            |         |
|-------------------------|--------------------------------------|------------|---------|
| 00.050.1.03.002.        | <i>Adeno-associated virus - 1</i>    |            |         |
| 00.050.1.03.002.00.001. | Adeno-associated virus - 1           | [AF063497] | (AAV-1) |
| 00.050.1.03.002.00.006. | Adeno-associated virus - 6           | [AF208704] | (AAV-6) |
| 00.050.1.03.003.        | <i>Adeno-associated virus - 2</i>    |            |         |
| 00.050.1.03.003.00.001. | Adeno-associated virus - 2           | [J01901]   | (AAV-2) |
| 00.050.1.03.004.        | <i>Adeno-associated virus - 3</i>    |            |         |
| 00.050.1.03.004.00.001. | Adeno-associated virus - 3           | [AF028705] | (AAV-3) |
| 00.050.1.03.005.        | <i>Adeno-associated virus - 4</i>    |            |         |
| 00.050.1.03.005.00.001. | Adeno-associated virus - 4           | [U89790]   | (AAV-4) |
| 00.050.1.03.006.        | <i>Adeno-associated virus - 5</i>    |            |         |
| 00.050.1.03.006.00.001. | Adeno-associated virus - 5           | [AF085716] | (AAV-5) |
| 00.050.1.03.007.        | <i>Avian adeno-associated virus</i>  |            |         |
| 00.050.1.03.007.00.001. | Avian adeno-associated virus         | [AY186198] | (AAAV)  |
| 00.050.1.03.008.        | <i>Bovine adeno-associated virus</i> |            |         |
| 00.050.1.03.008.00.001. | Bovine adeno-associated virus        |            | (BAAV)  |
| 00.050.1.03.009.        | <i>Canine adeno-associated virus</i> |            |         |
| 00.050.1.03.009.00.001. | Canine adeno-associated virus        |            | (CAAV)  |
| 00.050.1.03.014.        | <i>Duck parvovirus</i>               |            |         |
| 00.050.1.03.014.00.001. | Barbarie duck parvovirus             | [U22967]   | (BDPV)  |
| 00.050.1.03.014.00.022. | Muscovy duck parvovirus              | [X75093]   | (MDPV)  |
| 00.050.1.03.010.        | <i>Equine adeno-associated virus</i> |            |         |
| 00.050.1.03.010.00.001. | Equine adeno-associated virus        |            | (EAAV)  |
| 00.050.1.03.013.        | <i>Goose parvovirus</i>              |            |         |
| 00.050.1.03.013.00.001. | Goose parvovirus                     | [U25749]   | (GPV)   |
| 00.050.1.03.011.        | <i>Ovine adeno-associated virus</i>  |            |         |
| 00.050.1.03.011.00.001. | Ovine adeno-associated virus         |            | (OAAV)  |

# **Tentative Species in the Genus**

|                         |                            |            |         |
|-------------------------|----------------------------|------------|---------|
| 00.050.1.83.014.        | Adeno-associated virus 7   |            |         |
| 00.050.1.83.014.00.001. | Adeno-associated virus - 7 | [AF513851] | (AAV-7) |
| 00.050.1.83.014.        | (Adeno-associated virus-7) |            |         |
| 00.050.1.83.015.        | Adeno-associated virus 8   |            |         |
| 00.050.1.83.015.00.001. | Adeno-associated virus - 8 | [AF513852] | (AAV-8) |
| 00.050.1.83.015.        | (Adeno-associated virus-8) |            |         |
| 00.050.1.83.016.        | Bovine parvovirus 2        |            |         |
| 00.050.1.83.016.00.001. | Bovine parvovirus - 2      | [AF406966] | (BPV-2) |
| 00.050.1.83.016.        | (Bovine parvovirus-2)      |            |         |

**Genus** 00.050.1.04. *Amdovirus*  
**Type Species** 00.050.1.04.001. *Aleutian mink disease virus*

**List of Species Demarcation Criteria in the Genus**

Not applicable.

**List of Species in the Genus**

The ICTVdB virus code and the viruses. Official virus *species names* are in italics. Tentative virus species names, alternative names ( ), isolates, strains, serotypes, subspecies, or rejected names are not italicized.

Virus codes, virus names, genome sequence accession numbers [ ] and assigned abbreviations ( ), are:

**Species, their serotypes, strains and isolates**

|                         |                                    |          |        |
|-------------------------|------------------------------------|----------|--------|
| 00.050.1.04.001.        | <i>Aleutian mink disease virus</i> |          |        |
| 00.050.1.04.001.00.001. | Aleutian mink disease virus        |          |        |
| 00.050.1.04.001.        | (Aleutian disease virus)           | [M20036] | (AMDV) |

**Tentative Species in the Genus**

None reported.

**Genus** 00.050.1.05. *Bocavirus*  
**Type Species** 00.050.1.05.001. *Bovine parvovirus*

### List of Species Demarcation Criteria in the Genus

Members of each species are probably antigenically distinct and natural infection is confined to a single host species. Species are <95% related by non-structural gene DNA sequence.

### List of Species in the Genus

The ICTVdB virus code and the viruses. Official virus *species names* are in italics. Tentative virus species names, alternative names ( ), isolates, strains, serotypes, subspecies, or rejected names are not italicized.

Virus codes, virus names, genome sequence accession numbers [ ] and assigned abbreviations ( ), are:

#### Species, their serotypes, strains and isolates

|                         |                                   |            |        |
|-------------------------|-----------------------------------|------------|--------|
| 00.050.1.05.001.        | <i>Bovine parvovirus</i>          |            |        |
| 00.050.1.05.001.00.001. | Bovine parvovirus                 | [M14363]   | (BPV)  |
| 00.050.1.05.002.        | <u><i>Canine minute virus</i></u> |            |        |
| 00.050.1.05.002.00.001. | Canine minute virus               | [AF495467] | (CnMV) |

#### Tentative Species in the Genus

None reported.

**Subfamily** 00.050.2. *Densovirinae*

**Genus** 00.050.2.01. *Densovirus*

**Type Species** 00.050.2.01.001. *Junonia coenia densovirus*

### **List of Species Demarcation Criteria in the Genus**

Members of each species are probably antigenically distinct, and natural infection is confined to a single host species. Species are <95% related by non-structural gene DNA sequence.

### **List of Species in the Genus**

The ICTVdB virus code and the viruses. Official virus *species names* are in italics. Tentative virus species names, alternative names ( ), isolates, strains, serotypes, subspecies, or rejected names are not italicized.

Virus codes, virus names, genome sequence accession numbers [ ] and assigned abbreviations ( ), are:

#### **Species, their serotypes, strains and isolates**

|                         |                                       |          |         |
|-------------------------|---------------------------------------|----------|---------|
| 00.050.2.01.002.        | <i>Galleria mellonella densovirus</i> |          |         |
| 00.050.2.01.002.00.001. | Galleria mellonella densovirus        | [L32896] | (GmDNV) |
| 00.050.2.01.001.        | <i>Junonia coenia densovirus</i>      |          |         |
| 00.050.2.01.001.00.001. | Junonia coenia densovirus             | [S17265] | (JcDNV) |

#### **Tentative Species in the Genus**

|                         |  |            |         |
|-------------------------|--|------------|---------|
| 00.050.2.81.008.        | <i>Diatraea saccharalis densovirus</i>     |            |         |
| 00.050.2.81.008.00.001. | Diatraea saccharalis densovirus            | [AF036333] | (DsDNV) |
| 00.050.2.81.006.        | <i>Mythimna loreyi densovirus</i>          |            |         |
| 00.050.2.81.006.00.001. | Mythimna loreyi densovirus                 | [AY461507] | (MIDNV) |
| 00.050.2.81.007.        | <i>Pseudoplusia includens densovirus</i>   |            |         |
| 00.050.2.81.007.00.001. | Pseudoplusia includens densovirus          |            | (PiDNV) |
| 00.050.2.81.009.        | <i>Toxorhynchites splendens densovirus</i> |            |         |
| 00.050.2.81.009.00.001. | Toxorhynchites splendens densovirus        | [AF395903] | (TsDNV) |

**Genus** 00.050.2.02. *Iteravirus*

Type Species 00.050.2.02.001. *Bombyx mori densovirus*

### List of Species Demarcation Criteria in the Genus

Members of each species are probably antigenically distinct, and natural infection is confined to a single host species. Species are <95% related by non-structural gene DNA sequence.

### List of Species in the Genus

The ICTVdB virus code and the viruses. Official virus *species names* are in italics. Tentative virus species names, alternative names ( ), isolates, strains, serotypes, subspecies, or rejected names are not italicized.

Virus codes, virus names, genome sequence accession numbers [ ] and assigned abbreviations ( ), are:

#### Species, their serotypes, strains and isolates

|                         |                               |            |         |
|-------------------------|-------------------------------|------------|---------|
| 00.050.2.02.001.        | <i>Bombyx mori densovirus</i> |            |         |
| 00.050.2.02.001.00.001. | Bombyx mori densovirus        | [AY033435] | (BmDNV) |

#### Tentative Species in the Genus

|                         |                               |            |         |
|-------------------------|-------------------------------|------------|---------|
| 00.050.2.82.004.        | Casphalia extranea densovirus |            |         |
| 00.050.2.82.004.00.001. | Casphalia extranea densovirus | [AF375296] | (CeDNV) |
| 00.050.2.82.005.        | Sibine fusca densovirus       |            |         |
| 00.050.2.82.005.00.001. | Sibine fusca densovirus       |            | (SfDNV) |

**Genus** 00.050.2.03. *Brevidensovirus*  
**Type Species** 00.050.2.03.001. *Aedes aegypti densovirus*

### List of Species Demarcation Criteria in the Genus

Members of each species are probably antigenically distinct, and natural infection is confined to a single host species. Species are <95% related by non-structural gene DNA sequence.

### List of Species in the Genus

The ICTVdB virus code and the viruses. Official virus *species names* are in italics. Tentative virus species names, alternative names ( ), isolates, strains, serotypes, subspecies, or rejected names are not italicized.

Virus codes, virus names, genome sequence accession numbers [ ] and assigned abbreviations ( ), are:

#### Species, their serotypes, strains and isolates

|                         |                                    |            |          |
|-------------------------|------------------------------------|------------|----------|
| 00.050.2.03.001.        | <i>Aedes aegypti densovirus</i>    |            |          |
| 00.050.2.03.001.00.001. | Aedes aegypti densovirus           | [AY160976] | (AaeDNV) |
| 00.050.2.03.002.        | <i>Aedes albopictus densovirus</i> |            |          |
| 00.050.2.03.002.00.001. | Aedes albopictus densovirus        | [AY095351] | (AalDNV) |

#### Tentative Species in the Genus

|                         |   |            |          |
|-------------------------|---|------------|----------|
| 00.050.2.83.015.        | <i>Aedes pseudoscutellaris densovirus</i> |            |          |
| 00.050.2.83.015.00.001. | Aedes pseudoscutellaris densovirus        |            | (ApDNV)  |
| 00.050.2.83.003.        | Agraulis vanillae densovirus              |            |          |
| 00.050.2.83.008.        | Lymantria dubia densovirus                |            |          |
| 00.050.2.83.019.        | <i>Penaeus stylirostris densovirus</i>    |            |          |
| 00.050.2.83.019.00.001. | Penaeus stylirostris densovirus           | [AF273215] | (PstDNV) |
| 00.050.2.83.011.        | Pseudaletia includens densovirus          |            |          |
| 00.050.2.83.012.        | Sibine fusca densovirus                   |            |          |
| 00.050.2.83.013.        | <i>Simulium vittatum densovirus</i>       |            |          |
| 00.050.2.83.013.00.001. | Simulium vittatum densovirus              |            | (SvDNV)  |



**Genus** 00.050.2.04. *Pefudensovirus*  
**Type Species** 00.050.2.04.001. *Periplaneta fuliginosa densovirus*

**List of Species Demarcation Criteria in the Genus**

Not applicable.

**List of Species in the Genus**

The ICTVdB virus code and the viruses. Official virus *species names* are in italics. Tentative virus species names, alternative names ( ), isolates, strains, serotypes, subspecies, or rejected names are not italicized.

Virus codes, virus names, genome sequence accession numbers [ ] and assigned abbreviations ( ), are:

**Species, their serotypes, strains and isolates**

|                         |  |            |         |
|-------------------------|--|------------|---------|
| 00.050.2.04.001.        | <i>Periplaneta fuliginosa densovirus</i> |            |         |
| 00.050.2.04.001.00.001. | Periplaneta fuliginosa densovirus        | [AF192260] | (PfDNV) |

**Tentative Species in the Genus**

None reported.

## Unassigned Species in the Subfamily

|                         |  |            |          |
|-------------------------|--|------------|----------|
| 00.050.2.00.014.        | <i>Acheta domestica</i> densovirus           |            |          |
| 00.050.2.00.014.00.001. | <i>Acheta domesticus</i> densovirus          | [AX344110] | (AdDNV)  |
| 00.050.2.00.015.        | <i>Blattella germanica</i> densovirus        |            |          |
| 00.050.2.00.015.00.001. | <i>Blattella germanica</i> densovirus        | [AY189948] | (BgDNV)  |
| 00.050.2.00.008.        | <i>Culex pipiens</i> densovirus              |            |          |
| 00.050.2.00.008.00.001. | <i>Culex pipiens</i> densovirus              |            | (CpDNV)  |
| 00.050.2.00.016.        | <i>Euxoa auxiliaris</i> densovirus           |            |          |
| 00.050.2.00.016.00.001. | <i>Euxoa auxiliaris</i> densovirus           |            | (EaDNV)  |
| 00.050.2.00.001.        | Hepatopancreatic parvo-like virus of shrimps |            |          |
| 00.050.2.00.017.        | <i>Leucorrhinia dubia</i> densovirus         |            |          |
| 00.050.2.00.017.00.001. | <i>Leucorrhinia dubia</i> densovirus         |            | (LduDNV) |
| 00.050.2.00.018.        | <i>Lymantria dispar</i> densovirus           |            |          |
| 00.050.2.00.018.00.001. | <i>Lymantria dispar</i> densovirus           |            | (LdiDNV) |
| 00.050.2.00.003.        | <i>Myzus persicae</i> densovirus             |            |          |
| 00.050.2.00.003.00.001. | <i>Myzus persicae</i> densovirus             | [AY148187] | (MpDNV)  |
| 00.050.2.00.002.        | Parvo-like virus of crabs                    |            |          |
| 00.050.2.00.019.        | <i>Pieris rapae</i> densovirus               |            |          |
| 00.050.2.00.019.00.001. | <i>Pieris rapae</i> densovirus               |            | (PrDNV)  |
| 00.050.2.00.004.        | <i>Planococcus citri</i> densovirus          |            |          |
| 00.050.2.00.004.00.001. | <i>Planococcus citri</i> densovirus          | [AY032882] | (PcDNV)  |

## List of Unassigned Viruses in the Family

None reported.

## Similarity with other Taxa

None reported.

## Derivation of Names

*Amdo*: sigla from Aleutian Mink Disease. *Boca*: sigla from Bovine and Canine *Brevi*: from Latin *brevi*, "short". *Denso*: from Latin *densus*, "thick, compact". *Dependo*: from Latin *dependeo*, "to hang down". *Erythro*: from Greek *erythros*, "red". *Itera*: from Latin *iterum*, "again", "repeat". *Parvo*: from Latin *parvus*, "small". *Pefu*: sigla from *Periplaneta fuliginosa* densovirus, type species of the *Pefudensovirus* genus.

## References

Collated from VIIth ICTV Report

## Contributed by

Tattersall, P., Bergoin, M., Bloom, M.E., Brown, K.E., Linden, R.M., Muzyczka, N., Parrish, C.R. and Tijssen, P.

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### **Additional References**

Reference List from the 8th ICTV Report

ICTVdB taxon description

ICTVdB Picture Gallery

*References to sequence databases at GenBank and PubMed Central:*

PubMed Central References; nucleotide sequences; complete genomes

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**Source: <http://www.ncbi.nlm.nih.gov/ICTVdb/Ictv/index.htm>**

# **EXHIBIT B**

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#### Parvo Human Virus

Find more sources/options for Parvo Human Virus  
[www.webcrawler.com](http://www.webcrawler.com)



#### Fifth Disease

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#### Exposed to Parvo Virus?

Parvo kills, Parvaid works, 85% success, 4yr shelf life, prevention  
[www.animalsnaturallyonline.com](http://www.animalsnaturallyonline.com)

## parvo-, parvi- +

(Latin: [*parvus*] small, little; minute, minuscule)

Little things contribute to perfection, and perfection is not a little thing.

—John Rayoa

### parvoviral

Caused by or relating to a parvovirus.

### parvovirus

1. Any of a group of very small animal viruses consisting of some single-stranded DNA in an icosahedral capsid without an envelope and occurring in a wide variety of vertebrates, often as a pathogen.
2. In veterinary medicine, an often fatal disease of dogs caused by a parvovirus, characterized by diarrhea and vomiting.
3. Parvoviruses; a genus of viruses of the subfamily *Parvovirinae* (family *Parvoviridae*) that infect mammals and birds. Viruses multiply in the nucleus and require S-phase

cellular functions for replication.

Bovine parvovirus, a virus of the genus *Parvovirus* infecting cattle that causes diarrhea in calves; infection during the first or second trimesters of gestation may result in abortion. Infection is widespread and antibody to the virus can be found in a high proportion of adult cattle.

Canine parvovirus, a virus of the genus *Parvovirus* that causes myocarditis in dogs and a type of enteritis called canine parvovirus disease; it is sometimes considered to be a species-specific variant of feline parvovirus.

Feline parvovirus, a virus of the genus *Parvovirus* that primarily affects cats.

Canine parvovirus, feline panleukopenia virus, and mink enteritis virus are sometimes considered to be host-specific variant strains.

Goose parvovirus, a virus of the genus *Parvovirus* that causes a highly fatal disease of young geese affecting the liver, thyroid, and pancreas.

Porcine parvovirus, A worldwide virus of pigs that has been associated with infertility and abortion.

Transmission is transplacental or by mechanical vector. Human parvoviruses cause transient aplastic crisis, acute arthritis, erythema infectiosum, hydrops fetalis, spontaneous abortion, and fetal death.

Animal pathogens include such animals as: bovine, canine, feline, and goose parvoviruses, feline panleukopenia virus, mink enteritis virus, Aleutian mink disease virus, and various murine parvoviruses.

### **parvule**

In pharmacology, a very small pill, pellet, or granule.

### **parvum (small) opus (work)**

Small work as opposed to magnum (big, great) opus (work).

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